



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,468	03/31/2006	Hideaki Miura	127614	2544
25944 7590 04/22/2008 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
CHAPEL, DEREK S				
ART UNIT		PAPER NUMBER		
2872				
MAIL DATE		DELIVERY MODE		
04/22/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,468

Applicant(s)

MIURA ET AL.

Examiner

DEREK S. CHAPEL

Art Unit

2872

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 and 7 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date 3/31/2006
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status Of Claims

1. This Office Action is in response to an amendment received 3/31/2006 in which Applicant lists claims 2 and 6-7 as being original, claims 1 and 3-5 as being currently amended, and claims 8-10 as being new. It is interpreted by the examiner that claims 1-10 are pending.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The Information Disclosure Statement(s) (IDS) filed on 3/31/2006 was considered.

Specification

4. The abstract of the disclosure is objected to because the element numbers should be in parenthesis. Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities: figures 8(A)-8(E) are not described in the "BRIEF DESCRIPTION OF THE DRAWINGS" section.

Appropriate correction is required.

Claim Objections

6. Claims 4 and 9 recite the limitation "the recording areas". There is insufficient antecedent basis for this limitation in the claim. For the purpose of this examination "for each of the recording areas", has been interpreted as --for the recording area--.

7. Claim 5 is objected to because of the following informalities: "area are formed" should be changed to --area formed--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Takizawa, Japanese Patent Publication Number JP-A-2001-005368, of record (hereafter Takizawa).

10. As to claim 1, Takizawa discloses a holographic recording medium (see figures 1-3) comprising: two transparent substrates (see figure 1, elements 2 and 3); a holographic recording material layer sandwiched therebetween (see figure 3, element 9 and paragraph [0022]); and a spacer integrally embedded in this holographic recording material layer (see figure 1, elements 4 and 5; it is noted that the holographic recording material layer '9' is bordered on two sides by the spacers '4' and '5' and therefore they are integrally embedded in the holographic recording material layer), the spacer being composed of at least either a large number of beads or fibers for regulating a gap between the two transparent substrates (see figure 1, elements 4 and 5 and paragraphs [0014]-[0017]), wherein the spacer is arranged around a recording area of the holographic recording material layer (see figures 1 and 3, elements 4, 5 and 9).

Art Unit: 2872

11. As to claim 4, Takizawa discloses that the spacer is composed of a plurality of fibers (see figure 1, elements 4 and 5 and paragraphs [0014]-[0017]), and the fibers form at least one connection gap therebetween for the recording area (see figures 1 and 3, elements 4, 5 and 9 as well as paragraphs [0014]-[0017]); it is noted that the entire recording area is "at least one connection gap" since all of the holographic recording material is connected between the spacers).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 2, 5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa, Japanese Patent Publication Number JP-A-2001-005368, of record (hereafter Takizawa) in view of Tsuboyama et al., U.S. Patent Number 4,775,225 (hereafter Tsuboyama₁).

16. As to claim 2, Takizawa does not specifically disclose that the spacer is formed in a continuous lattice configuration, and the recording area is formed in each lattice cell.

However, Tsuboyama₁ teaches using fiber-like spacers (see figures 3A and 3B, element 307 as well as column 4, lines 33-36 and column 5, lines 8-55 of Tsuboyama₁) to separate two transparent substrates (see figures 3A and 3B, elements 301 and 302 as well as column 4, lines 33-36 and column 5, lines 8-55 of Tsuboyama₁) having liquid in between the substrates (see figures 3A and 3B, element 308 as well as column 4, lines 33-36 and column 5, lines 8-55 of Tsuboyama₁).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the holographic recording system of Takizawa to include the teachings of Tsuboyama₁ so that the spacer of the recording system is formed in a continuous lattice configuration, and the recording area is formed in each lattice cell, for the purpose of providing constant spacing between the transparent substrates throughout the apparatus.

17. As to claims 5 and 10, Takizawa does not specifically disclose necked parts for letting a liquid holographic recording material in and out of the recording area formed in peripheries of the fibers in a longitudinally intermittent fashion.

However, Tsuboyama₁ teaches using fiber-like spacers arranged in a grid pattern forming necked parts which let a liquid material in and out of the areas formed in the peripheries of the fibers (see figures 3A and 3B, element 307 as well as column 4, lines 33-36 and column 5, lines 8-55 of Tsuboyama₁; it is noted that the "necked parts" are the areas between the spacers which is narrower than the width or height of the liquid crystal device) to separate two transparent substrates (see figures 3A and 3B, elements 301 and 302 as well as column 4, lines 33-36 and column 5, lines 8-55 of Tsuboyama₁) having liquid in between the substrates (see figures 3A and 3B, element 308 as well as column 4, lines 33-36 and column 5, lines 8-55 of Tsuboyama₁).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the holographic recording system of Takizawa to include the teachings of Tsuboyama₁ so that the spacers form necked parts for letting a liquid holographic recording material in and out of the recording area formed in peripheries of the fibers in a longitudinally intermittent fashion, for the purpose of providing constant spacing between the transparent substrates throughout the apparatus.

18. As to claim 9, Takizawa in view of Tsuboyama₁ discloses that the spacer is composed of a plurality of fibers (see figure 1, elements 4 and 5 and paragraphs [0014]-[0017] of Takizawa), and the fibers form at least one connection gap therebetween for

the recording area (see figures 1 and 3, elements 4, 5 and 9 as well as paragraphs [0014]-[0017] of Takizawa; it is noted that the entire recording area is "at least one connection gap" since all of the holographic recording material is connected between the spacers).

19. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa, Japanese Patent Publication Number JP-A-2001-005368, of record (hereafter Takizawa) in view of Tsuboyama et al., U.S. Patent Number 4,674,839 (hereafter Tsuboyama₂).

20. As to claims 3 and 8, Takizawa does not specifically disclose that the spacer is composed of a large number of spherical beads.

However, Tsuboyama₂ teaches using spherical beads as spacers arranged in a grid pattern (see figures 4 and 5, element 6 as well as column 3, lines 35-48 of Tsuboyama₂) to separate two transparent substrates (see figures 4 and 5, elements 3a and 3b as well as column 3, lines 35-48 of Tsuboyama₂) having liquid in between the substrates (see figures 4 and 5, element 7 as well as column 3, lines 35-48 of Tsuboyama₂).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the holographic recording system of Takizawa to include the teachings of Tsuboyama₂ so that the spacer of the recording system is composed of a large number of spherical beads, for the purpose of providing constant spacing between the transparent substrates throughout the apparatus.

Allowable Subject Matter

21. Claims 6 and 7 are allowed.
22. The following is an examiner's statement of reasons for allowance:

Claim 6 is allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a method for manufacturing a holographic recording medium, comprising: a step of forming a frame for surrounding at least one recording area on a transparent substrate; a step of injecting a liquid holographic recording material into the frame; a step of arranging a spacer composed of at least either a large number of beads or fibers along the frame before detaching the frame from the holographic recording material; a step of attaching the transparent substrate to one press stage with a layer of the holographic recording material upward, as generally set forth in claim 6, the method including, in combination with the features recited in claim 6. Claim 7 depends from claim 6 and therefore is allowable for at least the same reasons as claim 6.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEREK S. CHAPEL whose telephone number is (571)272-8042. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S. C./
Examiner, Art Unit 2872
4/11/2008

/Stephone B. Allen/
Supervisory Patent Examiner
Art Unit 2872